

ABSTRACT

An intrusion detection system provides the function of an “active” ranging sensor cable system utilized for identification of the location of the intruder, with that of a “passive” cable detection system, in an integrated cable configuration. This dual function is provided with a single conventional sensing cable optimized for both “active” and “passive” sensing, or in combination with other parallel sensing cables for a “passive” cable component. The “active” cable component includes a coaxial sensor cable having a loosely disposed conductor. A signal is injected into the sensor cable such that a reflection is altered when an intrusion disturbs the cable. Based on the timing of the reflection, a processor, or a reflectometer, identifies the location of the disturbance. The “passive” cable component can be sensitized to detect intrusion via some other sensing phenomenology, such as the triboelectric effect, for triboelectric effect sensing.